

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

Claims 1- 29. (Canceled)

Claim 30. (Not entered)

Claim 31. (Currently amended) A system for monitoring changes in a skin wound over time, the system comprising: tissue measurement system comprising

a wound dressing including a two-dimensional array of test electrodes for application to the surface of the wound to the surface of tissue under investigation,

circuit means for measuring an electrical characteristic of ~~the~~ tissue underlying each test electrode, and

display means for presenting a visual map indicating the size and shape of the wound at least one value representing a physical characteristic of at least one region of the tissue based upon the measured electrical characteristic[[s]].

Claim 32. (Canceled)

Claim 33. (Canceled)

Claim 34. (Previously presented) A system as claimed in claim 31, wherein the array of test electrodes is arranged on a flexible backing of insulating material.

Claim 35. (Previously presented) A system as claimed in claim 34, wherein the array of electrodes is a rectangular array.

Claim 36. (Previously presented) A system as claimed in claim 34, wherein each test electrode is covered with a conductive gel, the resistance between adjacent test electrodes being high relative to the resistance via the gel between each test electrode and the underlying tissue.

Claim 37. (Currently amended) A system as claimed in claim 36, wherein the gel is a hydrogel.

Claim 38. (Previously presented) A system as claimed in claim 34, wherein leads for the test electrodes are also disposed on the flexible backing of insulating material and covered with an insulating material.

Claim 39. (Previously presented) A system as claimed in claim 31, wherein the two-dimensional array comprises at least 25 test electrodes.

Claim 40. (Previously presented) A system as claimed in claim 31, wherein the electrical characteristic is an impedance of the tissue underlying each test electrode.

Claim 41. (Currently amended) A system as claimed in claim 31, wherein the circuit means measures the electrical characteristic by applying an alternating electrical signal between the test electrode and at least one other electrode applied to [[the]] an organic body of which the tissue forms a part.

Claim 42. (Previously presented) A system as claimed in claim 41, wherein the circuit means measures the electrical characteristic by measuring the voltage between each test electrode and an adjacent reference electrode also applied to the tissue.

Claim 43. (Previously presented) A system as claimed in claim 42, wherein the reference electrode is also disposed on the flexible backing of insulating material.

Claim 44. (Previously presented) A system as claimed in claim 43, wherein a single reference electrode is common to a plurality of test electrodes.

Claim 45. (Previously presented) A system as claimed in claim 43, wherein during measurement on a given test electrode an adjacent test electrode acts temporarily as its reference electrode.

Claim 46. (Previously presented) A system as claimed in claim 41, wherein the said at least one other electrode is also disposed on the flexible backing of insulating material.

Claim 47. (Previously presented) A system as claimed in claim 41, wherein for each test electrode a measurement is made at a plurality of different frequencies.

Claim 48. (Previously presented) A system as claimed in claim 41, wherein the or each measurement is made at a frequency of from 1 milliHz to 100 kHz.

Claim 49. (Canceled)

Claim 50. (Currently amended) A method of monitoring changes in a skin wound over time, the method comprising: measuring tissue comprising

applying a dressing to the wound, the dressing including a two-dimensional array of test electrodes applied to the surface of the wound; tissue under investigation,

measuring an electrical characteristic of tissue underlying each test electrode at various times; and

presenting a visual map indicating the size and shape of the wound at least one value representing a physical characteristic of at least one region of tissue based upon the measured electrical characteristic[[s]].

Claim 51. (Canceled)

Claim 52. (Canceled)

Claim 53. (Previously presented) A method as claimed in claim 50, wherein the array of test electrodes is arranged on a flexible backing of insulating material.

Claim 54. (Previously presented) A method as claimed in claim 53, wherein each test electrode is covered with a conductive gel, the resistance between adjacent test electrodes being high relative to the resistance via the gel between each test electrode and the underlying tissue.

Claim 55. (Previously presented) A method as claimed in claim 50, wherein the two-dimensional array comprises at least 25 test electrodes.

Claim 56. (Previously presented) A method as claimed in claim 50, wherein the electrical characteristic is the impedance of the tissue underlying each test electrode.

Claim 57. (Currently amended) A method as claimed in claim 50, wherein the electrical characteristic is measured by applying an alternating electrical signal between the test electrode and at least one other electrode applied to [[the]] an organic body of which the tissue forms a part.

Claim 58. (Previously presented) A method as claimed in claim 57, wherein the electrical characteristic is measured by measuring the voltage between each test electrode and an adjacent reference electrode also applied to the tissue.

Claim 59. (Previously presented) A method as claimed in claim 57, wherein for each test electrode a measurement is made at a plurality of different frequencies.

Claim 60. (Canceled)

Claim 61. (New) A system as claimed in claim 1, wherein the circuit comprises:

a first test electrode for providing a current source, integrated in the two-dimensional array of test electrodes;

a second test electrode for completing a current loop with the first test electrode; and

a third test electrode wherein the third test electrode is applied to the tissue adjacent to the first test electrode.